

ABSTRACT

An aluminum titanate-based ceramic article having a composition comprising  $u$  ( $\text{Al}_2\text{O}_3\text{-TiO}_2$ ) +  $v$  (R) +  $w$  ( $3\text{Al}_2\text{O}_3\text{-2SiO}_2$ ) +  $x$  ( $\text{Al}_2\text{O}_3$ ) +  $y$  ( $\text{SiO}_2$ ) +  $z$  ( $1.1\text{SrO-1.5Al}_2\text{O}_3\text{-13.6SiO}_2\text{-TiO}_2$ ) +  $a$  ( $\text{Fe}_2\text{O}_3\text{-TiO}_2$ ) +  $b$  ( $\text{MgO-2TiO}_2$ ), where, R is  $\text{SrO-Al}_2\text{O}_3\text{-2SiO}_2$  or  $11.2\text{SrO-10.9Al}_2\text{O}_3\text{-24.1SiO}_2\text{-TiO}_2$ , where  $u, v, w, x, y, z, a$  and  $b$  are weight fractions of each component such that ( $u+v+w+x+y+z+a+b=1$ ), and  $0.5 < u \leq 0.95$ ,  $0.01 < v \leq 0.5$ ,  $0.01 < w \leq 0.5$ ,  $0 < x \leq 0.5$ ,  $0 < y \leq 0.1$ ,  $0 < z \leq 0.5$ ,  $0 < a \leq 0.3$ , and  $0 < b \leq 0.3$ . A method of forming the ceramic article is provided. The ceramic article is useful in automotive emissions control systems, such as diesel exhaust filtration.